Bringing stories to life

Japan's booming animation industry produces high-quality animated content for global audiences. Toei Animation is one of the most respected studios in the country and started out in 1948 with hand-drawn animation. Now it produces famous digital titles such as “Saint Seiya: Legend of Sanctuary,” and the “Pretty Cure” movie series.

Kosuke Yamashita, System Administrator, Toei Animation, comments on the evolution of the services Toei Animation offers, “Toei Animation’s foray into digital animation started small, with just a few elements rendered in 3D. Now we make fully animated 90-minute features, so our storage needs are more complex.”

The making of “Saint Seiya: Legend of the Sanctuary” was Toei Animation’s first full CG film, and a turning point for the company. The company’s existing storage environment had reached its limit, and creative teams struggled to stay motivated and focused on production while they waited to access and read data files.

“Our system had reached the end of its lifecycle, so all tasks took too long. It got to the point where staff stopped backing up their work because the data volumes were too big,” says Yamashita. Many staff at Toei Animation had become familiar with Dell EMC® Isilon® in a previous technology review, and felt that it was the perfect solution to manage the performance demands now required.

Buoyed by industry recommendations, the creative team deployed Dell EMC Isilon scale-out network-attached storage (NAS) to support the increasing volume of 3D animation work. The solution has significantly boosted performance, making it faster and easier for staff to complete their creative work. Inherent monitoring features also mean that IT has no problems managing the increase in data generated by new films and new technologies. Backup of creative work is also consistent, inspiring confidence that valuable work won’t be accidentally lost. Yamashita says, “Overall performance and availability gains have transformed the way our company works, and set the foundation for Toei Animation’s future features.”
Feedback from those who depend on Dell EMC Isilon is very positive, and we are delighted that we chose to deploy the technology. Dell EMC has an enviable track record in the animation and video industry, and we have gained real peace of mind with our choice.”

Atsushi Nojima, Line Producer, Digital Video Imaging Department, Toei Animation

Environment

With the company’s commitment to producing full-feature 3D animated films, high-performing, scalable storage is critical. Toei Animation deployed a Dell EMC Isilon X-Series cluster with 10 nodes, and four 1 gigabit controllers. Combined with Dell EMC Isilon OneFS®, Dell EMC Isilon SnapshotIQ™, and Dell EMC Isilon SmartConnect™ features, the company’s storage infrastructure is well-balanced for performance, availability, and ease of management. The Isilon X-Series is capable of scaling from a few terabytes to multiple petabytes, and over 30 gigabytes per second of throughput within a single file system.

Atsushi Nojima, Line Producer in the Digital Video Imaging Department, Toei Animation, says, “Our rendering farm consists of more than 200 servers, so when we are working on a project, all servers are accessing storage. Even with this huge workload, Dell EMC Isilon takes it all in its stride.” Dell EMC surpassed the benchmarks set by the creative and production teams, registering more than double the performance of competitor solutions.

Creativity boost with high performance

With almost 50 to 100 creative staff working on the same application to create a 3D animated feature, storage access requests become highly concentrated and can lead to bottlenecks. Toei Animation tried conventional NAS solutions before but found performance sluggish. Before making the switch to Dell EMC Isilon for their full CG film, accessing a single file could take more than 20 minutes.

“With the Isilon SmartConnect software, the workload is balanced for performance and availability so users always get the fastest response times. Our creative team is delighted because our storage environment makes their work easier and more enjoyable,” says Nojima.

Bright future for 4K animations

A full CG animated film, such as the company’s first CG film, “Saint Seiya: Legend of Sanctuary,” generates 90 terabytes of data, so storage scalability is crucial. To animate just one scene, for example, involves accessing several datasets—to convey aspects such as character and movement—spread out over many files. As films get more complex in terms of characters, storylines, and technology, the volume of data will only increase.

Yamashita says, “We’re confident that the Dell EMC Isilon X-Series is well-equipped to cope with the arrival of 4K video, and greater data and performance demands. As a scale-out NAS platform, it is a simple process to add capacity,” he says.

The OneFS operating system is also vital to the company’s management of capacity and performance, ensuring seamless application access for users. “We hold our meta-data on a rapid SSD, so it is very easy for us to check the number of files and volumes of data we’ve stored using OneFS,” says Yamashita.
Company Overview

Toei Animation is a Japanese film studio founded in 1948. Its headquarters are based in Tokyo, where it produces films and television series for a local and global audience. Among its respected titles are animated works of famous manga artists. Toei Animation also provides animation services for popular American movies.

Producers gain peace of mind

Given the hours spent creating quality entertainment, it is not surprising that Toei Animation has made a switch from its previous tape-based backup system. Yamashita says, “We use Dell EMC Isilon Snapshot IQ for backup. It means that up to two weeks’ worth of data can be restored if it is mistakenly deleted.” As production increases and data continues to grow, Toei Animation will make use of the deduplication feature of Dell EMC Isilon, which will help create a comfortable, optimal work environment for Toei’s creative teams. “Feedback from those who depend on Dell EMC Isilon is very positive, and we are delighted that we chose to deploy the technology. Dell EMC has an enviable track record in the animation and video industry, and we have gained real peace of mind with our choice,” concludes Nojima.